IN THE CLAIMS:

1. (Currently Amended) A method for cancelling feedback in an acoustic system comprising a microphone, a signal path, a speaker, means for detecting presence of feedback between the speaker and the microphone, and first adaptive feedback cancellation filter means for compensating at least partly a possible feedback signal, the method comprising:

using a LMS algorithm for generating filter coefficients for the first adaptive feedback cancellation filter means and for generating identical filter coefficients for a second adaptive feedback cancellation filter means;

using ~~a~~ at least one highpass filter to prevent low-frequency signals from the signal path from entering the LMS algorithm; and

using the second adaptive feedback cancellation filter means and a noise generator for providing low-frequency input for the LMS algorithm.

2. (Previously Presented) A method according to claim 1, where a Schroeder noise generator is used for generating a broad band noise signal having an amplitude substantially equal to the amplitude of the signal from which it was derived.

3. (Currently Amended) A method according to claim 2, where a steep low pass filter is used to generate a low-frequency noise signal to be used as ~~an additional~~ the low-frequency input to the LMS algorithm.

4. (Currently Amended) A method according to claim 1, where the LMS algorithm operates with a predetermined essentially level independent adaptation speed when feedback is not present, this representing a first mode.

where the LMS algorithm operates at a level dependent adaptation speed when feedback is present, this representing a second mode;

where the means for detecting the presence of feedback is used to control the adaptation mode selection of the LMS algorithm; and

where the adaptation speed for the LMS algorithm is determined by a long-term average of a denominator in the LMS update algorithm in the second mode.

5. (Previously Presented) A method according to claim 4, whereby bandwidth detection means are used for determining the presence of a feedback signal.

6. (Previously Presented) A method according to claim 5, where the stability of the signal determined as a feedback signal is analyzed.

7. (Previously Presented) A method according to claim 6, where the feedback analyzing comprises

holding flag values from a number of succeeding time frames and comparing of these.

8. (Currently Amended) A hearing aid comprising:

a microphone;

a signal path;

a amplifier;

a speaker;

means for detecting feedback between the speaker and the microphone;

first adaptive feedback cancellation filter means for at least partly compensating a possible feedback signal;

memory means including a LMS algorithm for generating filter coefficients for the first adaptive feedback cancellation filter means and for generating identical filter coefficients for a second adaptive feedback cancellation filter means;

at least one highpass filter for preventing low-frequency signals from the signal path from entering the LMS algorithm; whereby

the second adaptive feedback cancellation filter means and a noise generator provides low-frequency input for the LMS algorithm.

9. (Currently Amended) A hearing aid according to claim 8, further comprising steep low pass filters for generating a low-frequency noise signal to be used as ~~an additional~~ the low-frequency input to the LMS algorithm.

10. (New) A method according to claim 3, wherein a cutoff frequency for the lowpass filter is selected approximately equal to a cutoff frequency of the highpass filter(s).